


Rush Record

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Progress in the War on Cancer

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 RUSH

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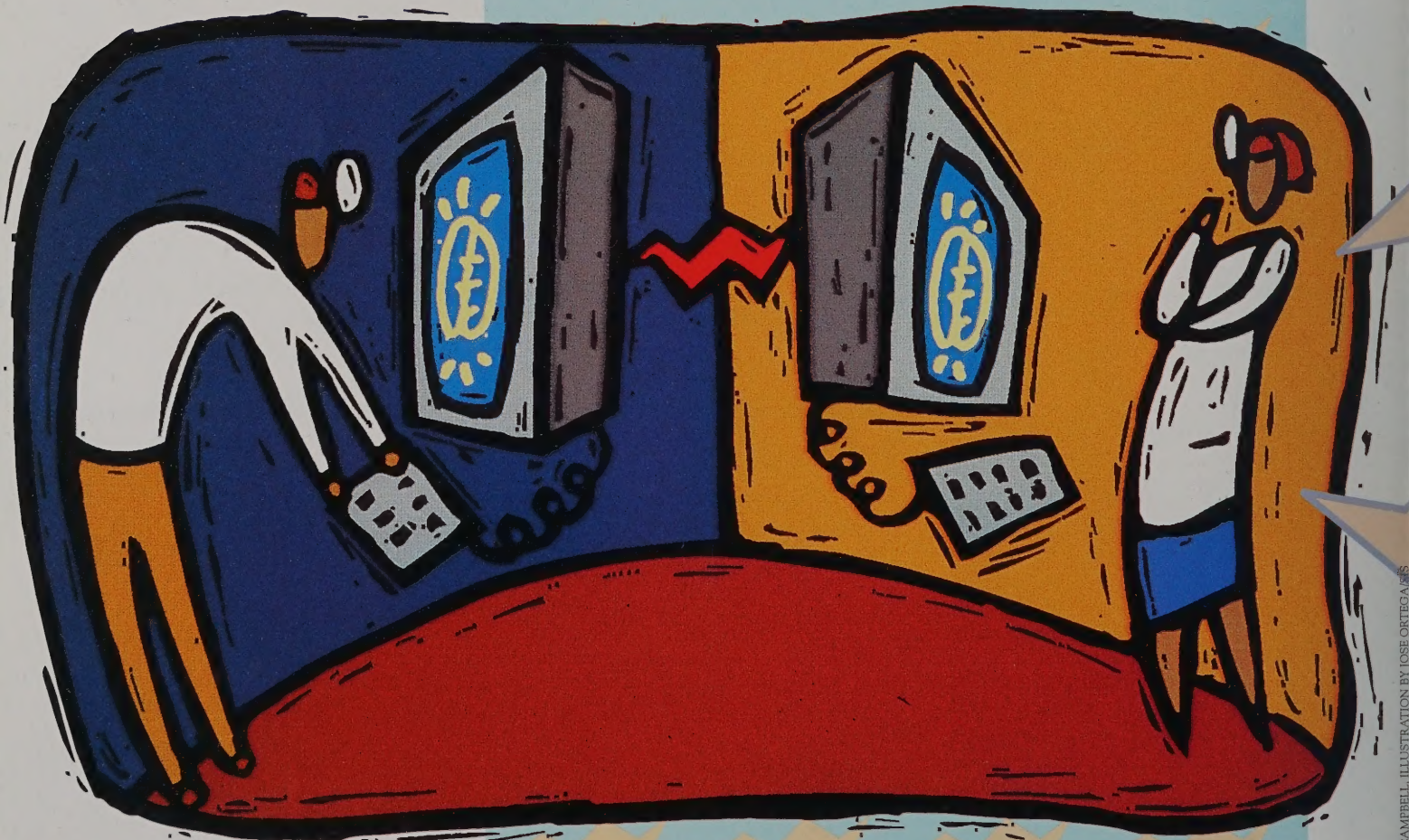
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Telemedicine links doctors to patients around the world through the use of computer monitors, fiber optics and other technology that makes the Internet seem almost medieval.

Express Medicine ■ by Amanda Temple



The next revolution in health care has already started, but don't look for signs of change in the operating room or in the laboratory. Technology is changing the way doctors do their jobs. And it is happening beyond hospital walls, in places like war-torn battlefields and stretches of rural highway.

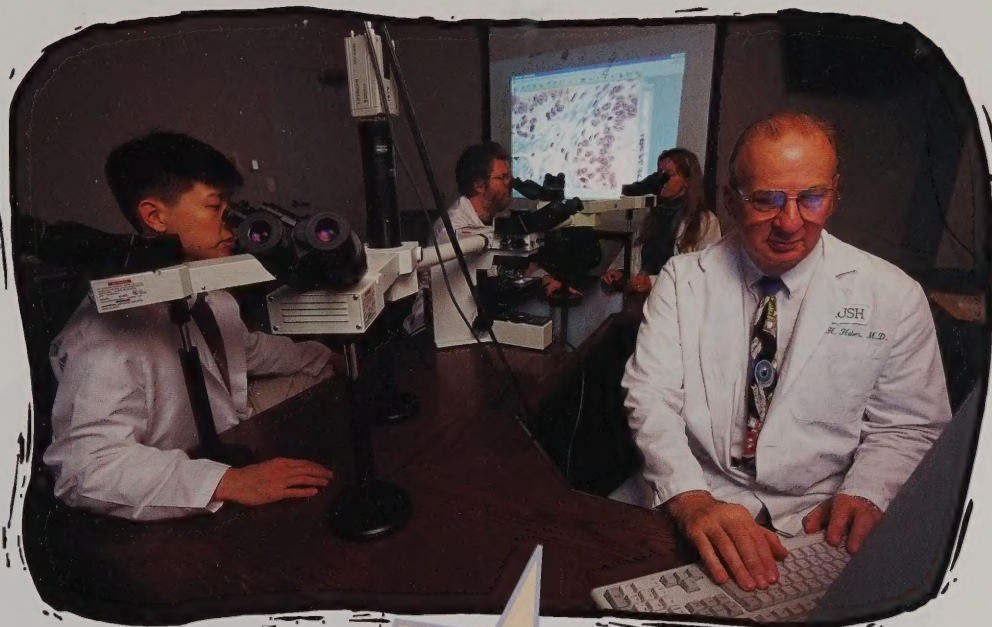
During the Bosnian conflict, Army physicians in Germany read X-rays, MRIs, echocardiograms and ultrasounds sent from remote battlefields using super-fast computers, high-resolution display monitors and high-speed telephone lines. Using similar technology, paramedics on the scene of an accident may one day be able to transmit vital information to surgeons, allowing critical care to begin in the ambulance, miles away from the operating room.

At its most basic, telemedicine allows for the speedy delivery of health care from a distance. For healthcare professionals, this means easier communication with long-distance colleagues. And for patients, it means convenient — possibly lifesaving — access to the latest technological advances and the doctors using them.

For an elderly woman with diabetes, telemedicine could provide just the kind of non-intrusive monitoring she needs to help her with her daily insulin shots. Using existing technology, a nurse could actually talk the patient through the injection and watch her through an interactive camera. Telemedicine could make it possible for the woman to maintain her independence and her health — and stay out of a nursing home.

For nursing students in the suburbs, telemedicine might mean not having to drive downtown to “attend” a lecture in a Rush classroom.

For a doctor in a rural hospital, telemedicine provides an instant link to a larger medical center where specialists can perform long-distance consultations, bringing their expertise to bear on challenging cases.



The Department of Pathology at Rush has established a telemedicine link with Holy Family Hospital in Des Plaines.

Those who have witnessed the combination of medicine and technology say the possibilities are endless.

“Telemedicine is going to be the way we practice medicine in the 21st century,” says Anthony Cutilletta, MD, medical director of the Rush Children’s Heart Center. “It’s going to be the way

doctors to consult, perform ultrasounds and basically expand the scope of medical services beyond Aurora into rural communities surrounding the western suburb.

Now Rush is ready to create even more connections, extending services and transmitting its expertise well beyond the 50 miles that separate Chicago and Aurora. Telemedicine will give Rush the infrastructure to do just that by linking our doctors to patients around the world through computer monitors, fiber optics and a variety of technological gadgets and gizmos that make the Internet seem almost medieval.

“The virtual hospital is more than just a buzzword,” says Cutilletta. “When we have the equipment and expertise to move the doctor to the patient, we can practice medicine with no physical boundaries.”

To ensure that those boundaries break down, Rush recently recruited a pioneer in telemedicine, who, after 20 years in the U.S. Army, has cleared many a hurdle. Russ Zajtcuk, MD, the Medical Center’s newly appointed vice president for advanced technology and international health, spent the last decade building the military’s telecommunications system into a sophisticated global network. In the three months since his appointment, Zajtcuk has been successfully introducing Rush as

“A doctor at a community hospital could connect to Rush, gain the consultation of a leading radiologist and never leave the office.”

we bridge the gap between a doctor in Chicago and a patient hundreds or even thousands of miles away.”

Laying the Groundwork

Cutilletta’s department led the way in 1995 when pediatric cardiologists at Rush first used interactive video to view electrocardiograms performed at Rush-Copley Medical Center in Aurora.

The Rush-Copley connection has become a well-traveled road, allowing

***A patient
in Wyoming could
benefit by having checkups
via teleconference and wearing
a monitor that digitally
transmits his vital signs
to his cardiologist in
Chicago.***

an irresistible global partner. In September, Yemen's largest hospital signed two contracts to work with Rush physicians and nurses, using telemedicine, telemonitoring and some hands-on instruction.

Alternate Routes on the Information Highway

Although physical boundaries may break down, users in healthcare settings still face financial and technological hurdles.

For the past year, pathologists from Rush have been able to receive live images of tissue specimens from doctors at Holy Family Hospital in Des Plaines. But the quality of the transmitted images isn't always good enough for the doctors here to make a diagnosis or give sound advice, says Meryl Haber, MD, chairman of the Department of Pathology. Improving the integrity of the data means spending more time and money. "The technology is there, but it is still very costly," Haber says. "High-quality images also take longer to transmit, so you lose that sense of instantaneous consultation."

Nevertheless, the relationship between pathologists at Rush and Holy Family has proved beneficial for many patients. Working on an expanded version of the "two heads are better than one" principle, the collaboration has increased the pool of experts avail-

able to evaluate some of the more puzzling specimens found under the microscopes at Rush's System partner in the northwest suburbs.

Like Haber, Cutilletta knows the benefits of telemedicine are greater than the barriers facing its implementation.

"To maximize the potential of the technology, you can't just start doing telemedicine without a system-wide, organized plan that defines what it is, when to use it, who should use it and how to pay for it," Cutilletta says. "It takes someone with medical and technological expertise and the vision to see us through that kind of major undertaking."

It takes someone like Zajtcuk, say those who have witnessed his ability to bring the information age to remote Bosnian battlefields and antiquated Russian villages.

"Dr. Zajtcuk's expertise is vital in expanding the use of telemedicine within the Rush System for Health and throughout Illinois, linking the expertise of Rush to those around the world who recognize our leadership and enhancing our outpatient services using lessons learned on the battlefields," says Leo M. Henikoff, MD, president and chief executive officer.

While Rush may not engage in armed combat, it does fight similar battles with cost constraints and bureaucratic impediments. That's why Zajtcuk's success in bringing new technology and procedures into a heavily regulated, budget-conscious environment will prove invaluable in the healthcare arena. "In the Army, cost is of great concern," he says, explaining his familiarity with evaluating and assessing technology. "But we have discovered that when information is easier to access, costs decrease and the quality of care improves."

The General Does a Reconnaissance

Although he doesn't need any reminders, Zajtcuk's title reiterates Rush's vision of becoming an international leader in information technology. "We already attract patients from around the world," says Henikoff. "Now we have someone dedicated to expanding our role as a clinical, management and educational consultant to less developed countries."

But before Rush starts transmitting data around the world, employees here have to be able to send it across the hall.

The doctor is in: The video camera atop the monitor transmits images to remote sites.



"Information systems within our own walls need to be re-engineered to support a sophisticated, digital infrastructure," says Jeffrey Soble, MD, director of Cardiology Information Systems for the Rush Heart Institute. "I think this will be the catalyst to build up our internal strengths and ensure we remain competitive in the Information Age."

As the man credited for making the U.S. Army the global model for telemedicine, Zajтчuk knows how to move large institutions toward a paperless and wireless system of exchanging information and images. Topping his to-do list is transferring all information stored on film to a digital format. Storing information such as X-rays and medical records digitally prevents loss, enhances the images and allows hospitals to exchange critical patient information via teleradiology. "A doctor at a community hospital could connect to Rush, gain the consultation of a leading radiologist and never leave the office," Zajтчuk says.

The Best Defense Is a Good Offense

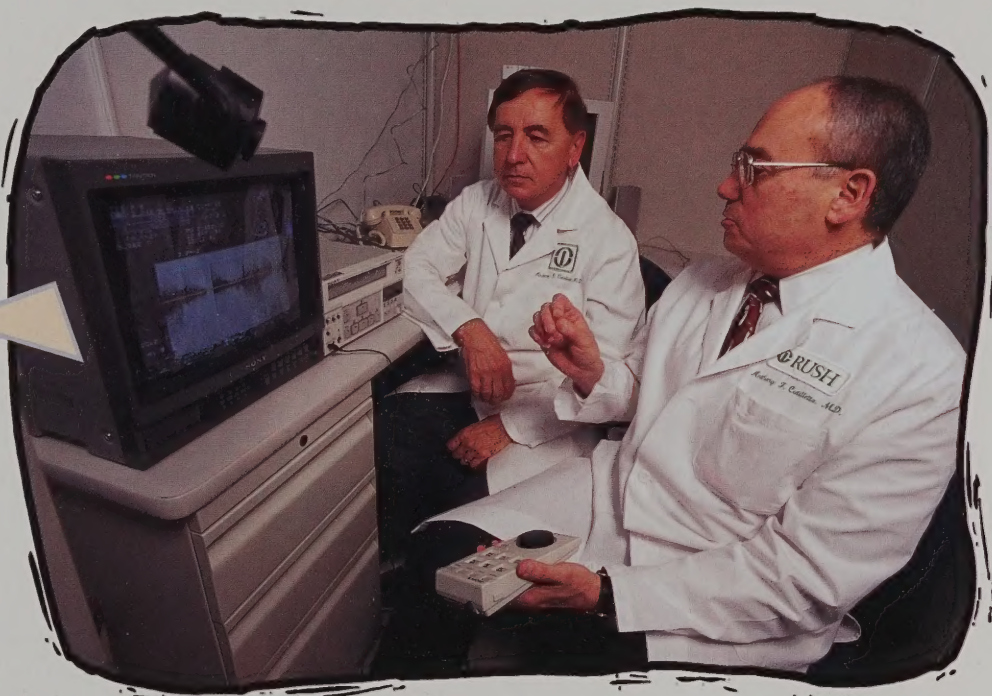
"The hardest part is the buy-in from customers," Zajтчuk says. "Patients and doctors have to see this as valuable and reliable or it will be a very slow process."

For users, the technology is secondary to quality and convenience. No matter how high-tech or efficient a gadget is, it has to add something to the experience to make it easier, less expensive or more effective. "You have to bring value to the person at the other end," Soble says. For example, if a patient from Wyoming flies to Rush for a heart transplant, he could benefit by having checkups via teleconference and wearing a monitor that digitally transmits his vital signs to his cardiologist in Chicago. "If you're not doing something for them that can't get done

the old-fashioned way, why change?" Soble asks.

Pediatric cardiologists changed because they consider telemedicine a

Rush drove to Waukegan, where tests showed that the infant needed an operation immediately. The baby was taken by helicopter to Rush, where surgeons



Russ Zajтчuk, MD (left), has been brought on board to spur the development of Rush's telemedicine program. Pediatric cardiologist Anthony Cutilletta, MD (right), was one of the first Rush physicians to take advantage of telemedicine's capabilities.

lifesaver, Cutilletta explains. He recalls a case that marked the turning point in his own view of telemedicine. Before Rush provided long-distance pediatric echocardiograms, a doctor in Waukegan discovered a heart murmur in one of his infant patients. An echocardiologist from

operated. The entire process lasted 14 hours. "Now we can do echocardiograms without leaving the hospital, and even consult with the pediatrician on-site if the patient needs immediate attention," Cutilletta says.

Ultimately, it's the doctors and other healthcare providers who will determine the extent of telemedicine's impact on the care of patients, the education of students and their communication with colleagues.

"Telemedicine empowers those who use it by giving their expertise a wider audience and putting more information within their reach," Zajтчuk says. "It doesn't replace people, it replaces outdated, less efficient ways of getting things accomplished." ■

"When information is easier to access, costs decrease and the quality of care improves."

Progress in the War on Cancer

by Jill Waite



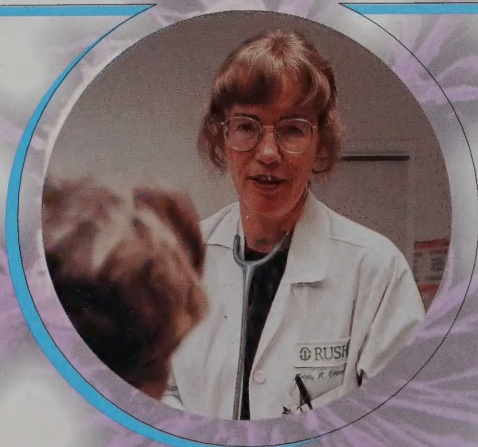
The success of the breast cancer drug Herceptin marks a major victory in an ongoing struggle.



When then-president Richard Nixon declared a “war on cancer” in 1971, the anti-cancer arsenal consisted of three weapons: surgery, radiation and chemotherapy. Armed with these methods, and sometimes a combination of all three, physicians mounted a full frontal assault on the disease.

No one today would claim that this three-pronged approach has outlived its usefulness. But scientists have gained new understanding of the biological processes that cause normal cells to turn deadly. This has enabled them to fashion cancer-fighting weapons that take a more subtle approach to vanquishing the foe.

These “strategic arms” include hormone therapies that boost the effectiveness of standard treatments. They also include drugs that home in on cancer cells, rather than using a “take no prisoners” approach that kills normal cells along with malignant ones. The drug Herceptin, which is offering new hope to many women with advanced breast cancer, is perhaps the best example of this approach and of the coming revolution in the war on cancer.



Melody Cobleigh, MD, director of the Comprehensive Breast Center at Rush

Although an estimated 43,500 women and 400 men will die of breast cancer this year, Melody Cobleigh, MD, director of the Comprehensive Breast Center at Rush, is more optimistic today than she has been in her nearly 20 years of treating breast cancer patients. "This is the biggest breakthrough I have seen in breast cancer treatment in my career," she says. "There's never been a more promising time in cancer research."

The cause of her enthusiasm? A new understanding of the problem. "Whenever you know what causes a disease," says Cobleigh, "that's when you can fix it."

By studying and manipulating genes, aided by sophisticated imaging technologies and high-level computers, scientists are beginning to uncover the molecular mechanisms that make a cancer cell different from a normal one. And as they unveil the biological processes that govern the behavior of cancerous cells, researchers like Cobleigh have become better equipped to find the tools necessary to treat malignant disease.

For the 25 to 30 percent of breast cancer victims whose cancer is characterized by overproduction of a specific protein, this new approach means hope in the form of an innovative drug called Herceptin. In fact, results with Herceptin have been so promising that in August the Food and Drug Administration sci-

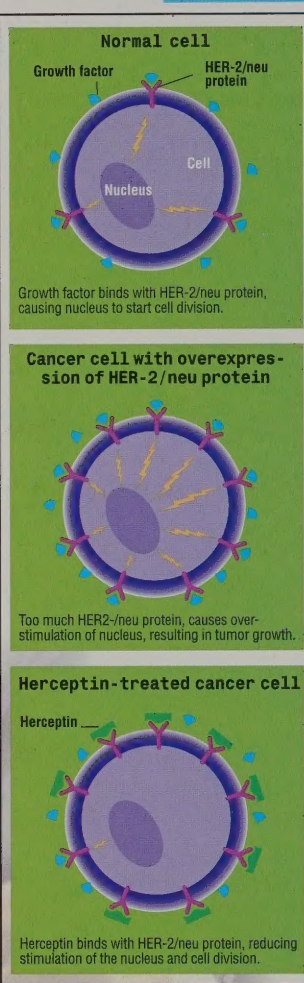
entific advisory panel unanimously recommended approval for its use.

Rush was one of 54 medical centers in eight countries testing the new treatment, which slows a fast-killing cancer that is responsible for about 30 percent of the 180,000 new cases of breast cancer diagnosed each year in the United States.

Herceptin is a monoclonal antibody, a sophisticated and hyper-efficient man-made version of the natural warriors produced by the body's immune system. By attaching themselves to molecules on harmful cells, antibodies protect us from illness. Our immune systems produce millions of antibodies — but they don't always do their jobs. For that reason, scientists developed the monoclonal antibody: a laboratory-manufactured solution that contains millions of identical copies of a single antibody. Like a stealth missile, all of these copies are programmed to attack the same target.

Herceptin's search-and-destroy tactic distinguishes it from other forms of cancer therapy. For reasons scientists do not fully understand, it targets the HER2/neu protein, a key culprit in a particularly aggressive form of breast cancer that can progress rapidly and cause death sooner than other forms of the disease. By binding to this protein, Herceptin appears to inhibit the growth of cancer cells.

Cobleigh administered Herceptin to patients



Jean Boyll enjoys choosing a pumpkin with her husband, Wayne.



Successful treatment with Herceptin is giving Jean Boyll a chance to enjoy her hobbies — like creating these handsewn stuffed rabbits for her grandchildren.

as part of a multicenter, multinational trial. All of the women who participated in the trial overexpressed the HER2 gene. And all of them had undergone extensive therapy — chemotherapy, radiation, surgery or a combination of therapies — for their disease without success.

After receiving an initial dose intravenously, each patient underwent weekly treatment. Although 40 percent of patients had chills and fever during the initial infusion, these symptoms usually didn't recur. The typical side effects of chemotherapy, such as hair loss, mouth sores and lowered white blood cell counts, were rare.

The overall response rate was 16 percent, with cancer completely disappearing in eight patients and shrinking by more than half in 26 of the 213 patients who received at least one treatment.

On the surface, 16 percent may not seem like cause for celebration. But consider this: Chemotherapy has a similar response rate in patients with such advanced cancer. And with chemotherapy, there are more adverse side effects and a shorter median duration of response — four months for chemotherapy versus nine months for Herceptin alone.

For patients like Jean Boyll, more time and less sickness

"My regular doctor was wary of experimental drugs, and suggested that I stick to drugs that had already been FDA approved," Boyll says.

makes all the difference in the world. Four years ago Boyll, now 57, was diagnosed with breast cancer. She underwent the standard treatment for her condition: a lumpectomy followed by radiation therapy. Two years later, the cancer reappeared in the same breast, forcing her doctors to perform a mastectomy. After three months, the cancer raged back — this time, on the chest wall.

Boyll's surgeon then referred her to Cobleigh, and she began chemotherapy. Not only was the chemotherapy ineffective in fighting her cancer, but it made her tired and nauseated.

Having exhausted the conventional therapies for her cancer, Boyll faced a difficult decision: Pursue uncharted territory with Cobleigh and the Herceptin trial or follow the advice of her physician in Indiana. "My regular doctor

was wary of experimental drugs, and suggested that I stick to drugs that had already been FDA approved," Boyll says. But Boyll figured that Herceptin was worth a shot. And to everyone's surprise, the payoff was huge.

Just eight weeks after treatment started, Boyll's cancer had all but disappeared. "When I saw Dr. Cobleigh, she was amazed. It was like a miracle," Boyll says. "When I got the

good news it was gone, the nurses just hugged me. It was just like family."

Thanks to Herceptin, Boyll says she feels great and spends her time transforming her favorite hobbies into what she hopes will become a profitable business. The handsewn stuffed rabbits she originally designed for her grandchildren have been a hit with the nurses at Rush. Now Boyll wants to expand her marketplace beyond Rush and tap into the festival circuit. She may even add her homemade preserves and pickled vegetables to her "catalogue."

Boyll considers herself one of the lucky ones. But, as Cobleigh cautions, Herceptin is not a panacea. "Nevertheless, it is the most significant discovery for women who had little hope for a cure," she says. Herceptin is a gentle treatment option that may produce more long-term results for the patients who meet its eligibility criteria. For patients like Boyll who have already undergone the ordeal of chemotherapy, this benefit is very real.

But the good news in breast cancer research doesn't end there.

Herceptin can be used along with other existing treatments, and ultimately this may be how it will be used most effectively. In fact, trials have shown that when Herceptin is administered in combination with chemotherapy, the response rate triples and the length of patients' responses doubles. Where one therapy fails or misses the target, another can pick up the slack. Or so researchers hope.

But what about the 70 to 75 percent of breast cancer patients who don't meet Herceptin's eligibility criteria?

With this group very much in mind, researchers are pursuing broader based therapies that once again show how an understanding of genetic alterations has created opportunities for cure.

One new approach to treatment — still in its infancy — is called "antisense" technology. The approach derives its name from the fact that it is designed to disable the harmful effects of genetic alterations that are fundamental to a cell's malignancy.

Referred to as "sense" molecules by molecular geneticists, these alterations are reflected in changes in a cell's genetic ma-

terial, or its DNA. An antisense molecule is a stretch of nucleic acids — the building blocks of DNA — that complements the defective strand of nucleic acids. By sitting on the defective strand, a complementary stretch of nucleic acids, or an antisense molecule, may prevent the gene from producing the proteins that drive abnormal cell growth. If patients are treated with the antisense molecules, researchers theorize, it may be possible to prevent the cascade of events that cause cancer.

Cobleigh has treated two patients at Rush using this new approach, and hopes to enlist more. So far, the therapy — currently reserved for patients with widespread cancer who have not responded to chemotherapy — appears to be nontoxic and easy for patients to tolerate.

In September, researchers at Rush also launched trials of antivascular endothelial growth factor (VEGF). Anti-VEGF is an angiogenesis inhibitor, meaning it blocks the growth of blood vessels that feed tumors. The idea behind this strategy is that without a blood supply, a tumor will stop growing.

Although still in the experimental stage, these trials may open even more doors in cancer therapy and research. Already researchers are exploring the application of Herceptin in treating lung cancer, and a similar monoclonal antibody called Rituxan is being used in bone marrow transplants. (See story on opposite page.)

No single treatment, however, offers a guarantee of cure. But the more researchers learn about the

unique characteristics of individual cancers and the patients who have them, the better armed they will be to treat the patient effectively.

"The future is going to be a rational approach to the treatment of cancer," Cobleigh says. "The era of empiricism, where you throw the same treatment at 100 percent of the patients and cross your fingers, is coming to an end." ■



"This is the biggest breakthrough I have seen in breast cancer research in my career. There's never been a more promising time in cancer research."

Other New Weapons in the Arsenal

The last three decades have seen a comprehensive effort on the part of researchers to understand the molecular processes responsible for the behavior of normal and abnormal cells. At Rush, as at medical centers around the country, scientists are using this knowledge to craft new therapies that complement—and may one day even replace—existing cancer treatments.

The PET scan is a powerful imaging technology that allows physicians to detect and measure metabolic activity inside cells. This is helping cancer researchers at Rush trace the response of locally advanced breast cancer to a combined regimen of radiation, surgery and chemotherapy. By evaluating cancer before, during and after treatment, oncologists like Shalina Gupta Burt, MD, believe they can identify how cancer cells are altered during treatment and how those changes correlate with a patient's response. This information will help doctors tailor treatment regimens to the specific needs of each patient.

Lung cancer, the leading cause of cancer death, poses one of the greatest challenges in cancer treatment.

Because there is no reliable screening test to detect lung cancer in its earlier stages, the disease is usually advanced by the time patients seek medical attention. At Rush, researchers like Philip Bonomi, MD, hope to find new ways to care for these patients. Research is currently under way to treat advanced stages of lung cancer using metalloproteinase inhibitors in combination with chemotherapy and radiation. Metalloproteinase inhibitors reduce the activity of enzymes made by tumors that enhance their growth. In addition, they decrease the formation of new blood vessels, hopefully halting tumor growth and prolonging the patient's survival.

Anticytokine therapy is being evaluated as a way to prevent preleukemia from transforming into acute myeloid leukemia.

Cytokines are proteins that play a role in causing important bone marrow cells to "commit suicide." By suppressing the activities of cytokines and keeping these cells alive, researchers at Rush hope to stop the progression of disease. Azra Raza, MD, director of the Medical Center's leukemia program, and her colleagues have uncovered evidence that a dormant virus that lies in everyone may be a co-conspirator in this disease as well. They believe that in certain

situations the virus reacts to the body's environment and invokes molecular mechanisms that eventually lead to cancer. If proven, this finding could help pave the way to prevention of acute myeloid leukemia.

Rush researchers are involved in studies of new applications for bone marrow transplants.

By administering the monoclonal antibody Rituxan in combination with chemotherapy in patients with chronic lymphocytic leukemia and low-grade lymphoma, researchers like Hans Klingemann, MD, hope to "purge" bone marrow of cancer cells so that patients who have no siblings who can donate bone marrow can use their own bone marrow for a transplant.



PET scans may help doctors create individually tailored treatment plans for cancer patients.



Jean Clough

Sex is not a necessary function in life, but for many couples it is an important part of the enjoyment of life. And Viagra can safely, with very low toxicity, result in improved erectile function. Now if erectile dysfunction is causing disharmony within a couple, it can have a tremendous negative affect upon quality of life. So if you could do something simple, noninvasive and safe, and recover some of that quality of life, that's a big plus.

The deaths that some people have been attributing to Viagra are a serious concern. First of all, we know this drug increases the effects of nitroglycerin medication, which causes blood vessels to dilate, and which many people take for chest pain or to control blood pres-

Is Viagra a wonder drug?

A Rush doctor offers his perspective

Laurence Levine, MD, is a professor of urology at Rush who specializes in male sexual dysfunction. He is on the advisory board of the National Erectile Dysfunction Foundation, and was a member of the American Urological Association's Guidelines Panel on the Treatment of Organic Erectile Dysfunction.

RushRecord sat down with him recently to discuss the impact of the male sexuality drug, Viagra.

■ Interview by Rebecca Johns Trissler

"An estimated 30 million men in this country have some sort of erectile problem. And Viagra has success rates being reported in the 40 to 90 percent range, depending on the cause of the dysfunction.

I wouldn't call it a wonder drug. I think it is a wonder-ful drug. It's excellent science applied to a substantial population of patients safely and effectively. But it won't work for everyone.

Men who have severe neurologically based erectile problems will not respond. You need intact nerves to carry information to the penis. In addition, men who have severe vascular disease — where there is more advanced atherosclerosis — will not be able to dilate in response to sexual stimuli.

Sometimes erectile dysfunction is a symptom of a larger problem. It is associated with diseases that affect the nerve and blood supplies to the penis. I call them the 'erection busters' — hypertension, diabetes, smoking and elevated cholesterol or fat in the blood. For many of the men who get this problem early in life, erectile dysfunction may be the harbinger of future coronary, cerebral or peripheral vascular problems.

As for the patients' quality of life, I think there has been an improvement.

sure. Viagra may increase that response and may cause blood pressure to drop markedly. There have been many patients who, because of the pent-up demand for a drug like Viagra to treat their impotence, were obtaining it inappropriately from 'friends.' Some of these patients may have inadvertently combined Viagra with their nitroglycerin medication, and that combination dropped their blood pressure and contributed to a heart attack.

The key is, all men with erectile problems deserve a full medical evaluation to rule out underlying cardiovascular problems and to make sure their cardiovascular system is strong enough to tolerate the exercise that occurs during sexual relations.

It is incumbent upon physicians to ask if their patients have erection problems. If they do, they should undergo a detailed medical history and physical examination focusing on the neurovascular system. All reversible causes of erectile dysfunction should be adjusted, like reducing fat in the diet, stopping smoking, controlling blood pressure and weight loss. Then the patients may indeed be candidates for Viagra. We shouldn't forego the proper medical evaluation simply because we can prescribe a drug." ■

L E G A L



Doctors and lawyers

share more than just a tax bracket. In matters of life and death, their performances can make the critical difference.

Whether it's the trauma of the emergency room or the drama of an emotionally charged case, both doctors and lawyers react with precision. We count on them to be at their best when situations are at their worst.

As expert witnesses, **James Cavanaugh, MD**, and **Gunnar Andersson, MD, PhD**, see these similarities whenever they make the transition from the clinic to the courtroom. Law and medicine often intersect, and when they do, expert witnesses help direct the jury, judge and lawyers to the medical facts.

JUST THE FACTS

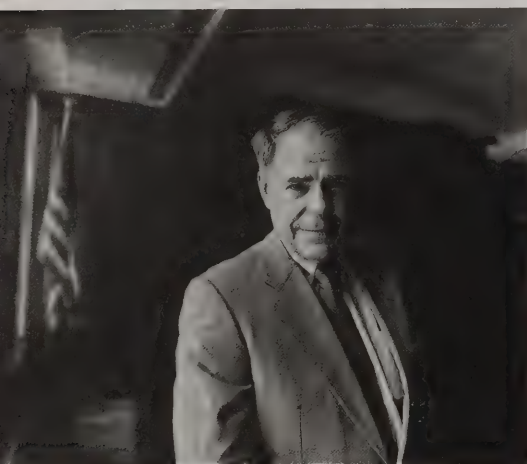
Although he doesn't have the mind of a criminal, Cavanaugh, a forensic psychiatrist, has had plenty of criminals on his mind.

Cavanaugh's ability to interpret legal mumbo-jumbo and psycho-babble helps jurors and judges form objective opinions about what most people think of as subjective issues. While the rest of us may use words like crazy, perverse and insane interchangeably, in the legal arena the difference can be a matter of life or death. It is Cavanaugh's job to investigate, identify and interpret those nuances.

"As an expert witness, your role is to assist the jury or the judge by taking an incredibly complex and complicated issue, breaking it down into digestible pieces of information and explaining it in terms people without a medical or legal background can understand," says Cavanaugh, director of the Isaac Ray Center and the Section of Psychiatry and Law at Rush Medical College. "Most people aren't expected to know the difference between 'not fit to stand trial' and 'guilty by reason of insanity.'"

But as the founder of the Isaac Ray Center, one of the nation's most respected centers for forensic psychiatry, Cavanaugh has explained that difference and many others to juries, judges, lawyers and reporters all over the world.

Cavanaugh is not the only Rush doctor taking his expertise to the witness stand. Workers' compensation cases keep Andersson and other orthopedic surgeons busy answering questions in depositions. Pathologists ponder over DNA samples in paternity suits. Doctors are asked to testify about other doctors in malpractice suits.



As a forensic psychiatrist, James Cavanaugh, MD, has made his career exploring the intersection between law and medicine.

FROM THE CLINIC TO THE COURTROOM

For many doctors, being a part of the process just means sharing information they've already told a patient with a larger audience.

"In most instances, my testimony is an extension of a relationship I already have with a patient," says Andersson, who is chairman of the Department of Orthopedic Surgery at Rush. "I consider it my responsibility to fill in whatever medical blanks exist."

And when it comes to injuries of the spine — Andersson's specialty — there are plenty of blanks to fill in. Orthopedic surgeons are, for the most part, involved in workers' compensation disputes and personal injury suits, cases that involve people who are in pain — and whoever or whatever they think caused them to be that way. Andersson says his job is not to point the finger and lay blame but to

point to medical evidence, like X-rays and other clinical tests, shedding light on the pain in question.

The issue of back pain is contentious because, unlike a broken leg or wrist, the evidence is often not obvious. Clouding the issue even more is the extent to which the injury is disabling. For example, an employee seeking workers' compensation may claim the pain is so bad that he can't even mow his lawn, much less return to work. The company's lawyers believe the employee is faking, exaggerating the pain to get out of work and stay on the payroll. Only a doctor who has either diagnosed the injury in question or seen others like it can provide an objective voice.

That voice is becoming a familiar one in the courtroom, as the number of personal injury and workers' compensation cases continues to increase, says Andersson, explaining why orthopedic surgeons sometimes feel as if they're on the speed-dial button of every lawyer in town.

"It is almost impossible for an orthopedic surgeon to stay out of legal issues," says Andersson, who has a deposition-a-week schedule. "Whether or not you become an expert depends on the type of patients you care for or evaluate in your office. But you should always be prepared."

While Andersson's testimony is based on a relationship that began in his office, Cavanaugh's often start in prison,

when the mental health of the accused is questioned.

"The key distinction," Cavanaugh says, "is the way a forensic psychiatrist goes about gathering information and interacting with the defendant."

That difference can be both intriguing and intimidating, says Cavanaugh about conducting his work with some of the country's most infamous criminals.

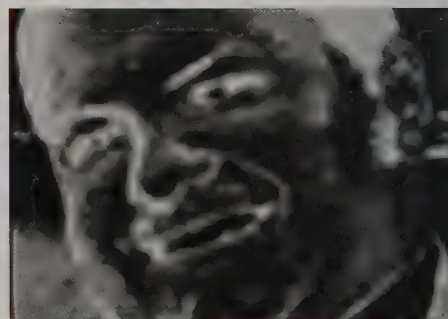
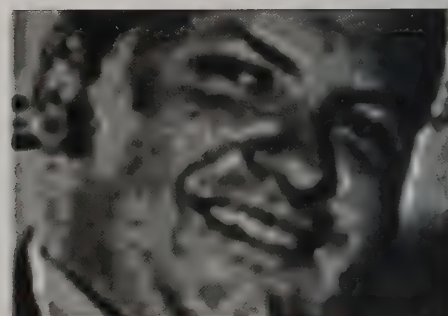
Sitting face to face with defendants like John Hinckley, Jr., and John Wayne Gacy, Cavanaugh has to conduct objective evaluations, focusing on the man before him and not on the horror surrounding the crimes.

THE MIND AT WORK

After his failed assassination attempt of then-president Ronald Reagan, Hinckley plead innocent by reason of insanity. Gacy tried to convince the jury he was insane during each of the 33 murders he committed in the late 1970s. And while the rest of the country was reeling in shock over the bodies buried under Gacy's house, Cavanaugh was listening to him politely explain his renewed faith in Christianity.

"You see the mind at work," he says. "And quite often you see a side of this person that no one else does, which is both fascinating and frightening."

While the country was reeling in shock over the bodies buried under Gacy's house, Cavanaugh was listening to him explain his renewed faith in Christianity.



After his **failed assassination attempt** of then-president **Ronald Reagan**, **Hinckley** plead innocent by reason of insanity.



Cavanaugh is fascinated not only by the high-profile nature of these cases, but also by their complexity. Take away the reporters, the cameras, the courtroom drama, and the basic mental health questions are those Cavanaugh has devoted a career to answering. For example, in 1979, Thomas Vanda's lawyers said their client was insane when he stabbed a 25-year-old Oak Park woman to death. But Cavanaugh said Vanda was suffering not from insanity but from "antisocial or sociopathic personality disorder," and that he didn't meet the legal standard for insanity.

"I am asked to assess and evaluate someone within the parameters of my subspecialty and to relate that assessment to a very specific legal issue that is of paramount importance to society at large."

If that description doesn't sound incredibly fascinating, consider Cavanaugh's own record. In addition to the Hinckley and Gacy trials, Cavanaugh's expertise made him crucial to the Jeffrey Dahmer case and prompted a call from "the Crown," when two jewel thieves in London pleaded insanity.

While Cavanaugh never expected to hold office hours in federal prison or Scotland Yard, his involvement in notorious cases has made courtroom appearances common procedure.

SECOND-GUESSING OPINIONS

Both Cavanaugh and Andersson agree that having their opinions second guessed — especially by someone other than a doctor — takes some getting used to.

"Most doctors don't go to work in the morning thinking they have to stand in criminal court and defend their diagnosis or their credibility," Cavanaugh says, speaking from two decades of experience. "Most of my colleagues would not want to do that."

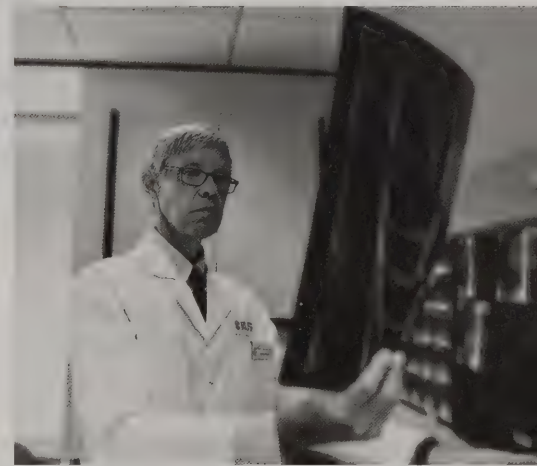
During Gacy's murder trial, defense attorneys questioned Cavanaugh's objectivity, calling him "a professional witness of the state." The defense was seeking a verdict of innocent by reason of insanity. Cavanaugh had diagnosed Gacy as being sane during each of the slayings.

"Their job is to help their client, not to agree with your medical expertise," Cavanaugh says about those who try to poke holes in his testimony. "The best way to handle the pressure is to do your job thoroughly and be confident in your examination."

A little pretrial preparation wouldn't hurt either, says Andersson, who suggests that legal issues should be integrated into residency programs. "I think medical students are not very well prepared for this," he says about what he believes has become an inevitable part of the job.

"Doctors are trained to make diagnoses and be certain about their findings. In the legal arena, being 100 percent certain is not critical, you just have to prove something is true more likely than not."


Accustomed to finding absolutes, doctors might find it difficult to communicate effectively about subjective issues. "Obviously there is some argument over the facts, some uncertainty, or there wouldn't be a dispute," Andersson says. "That tension can be disconcerting even when you know your facts."



Orthopedic surgeon Gunnar Andersson, MD, has testified in many workers' compensation cases.

Thanks to programs like the Isaac Ray Center and residency programs in psychiatry and the law, forensic psychiatrists have covered the intersection of law and medicine long before they step into the witness stand. Until other residency programs do the same, doctors can brief themselves about the legal arena with videotapes and training books that make the transition from clinic to courtroom easier.

Andersson has learned his own lessons about the judicial system from the comical and outrageous cases that clog it up. He once participated in a case in which the plaintiff was suing his former employer for having a dangerous environment that led to his injury, while at the same time suing that company for not hiring him back after he'd recovered. "I see these conflicts and the lawyers trying to make sense of them, and that's when I'm very glad I chose to be a doctor." ■



A new drug for rheumatoid arthritis
frees one woman from the prison
of her own body

released

■ by Marie Mahoney

Anyone who has spent even five minutes with Elizabeth Petersen would think nothing could stop her. But rheumatoid arthritis came close.

The North Side woman, who looks much younger than her 65 years, was diagnosed with the disease when she was 29. Marked by painful swelling, inflammation and stiffness in the joints, rheumatoid arthritis arises when the body's protective immune system goes haywire and mounts an attack on its host. Sometimes confused with a more common joint disorder, osteoarthritis, rheumatoid arthritis differs from its "cousin" in that it is systemic, affecting not only the joints but also internal organs such as the heart, lungs and spleen.

Though it can strike in any joint, rheumatoid arthritis typically settles in the hands, wrists, feet and ankles. Petersen first noticed the problem in a thumb. "I thought it was sprained," she recalls. But she knew she was dealing with something more serious when the pain appeared in her other thumb. The disease soon moved to her wrists.

For years, Petersen felt like a prisoner in her own body. She tried every treatment available. Nothing worked very well – or for very long. Sometimes she was so tired at the end of the day that she went to bed right after dinner. "I'd

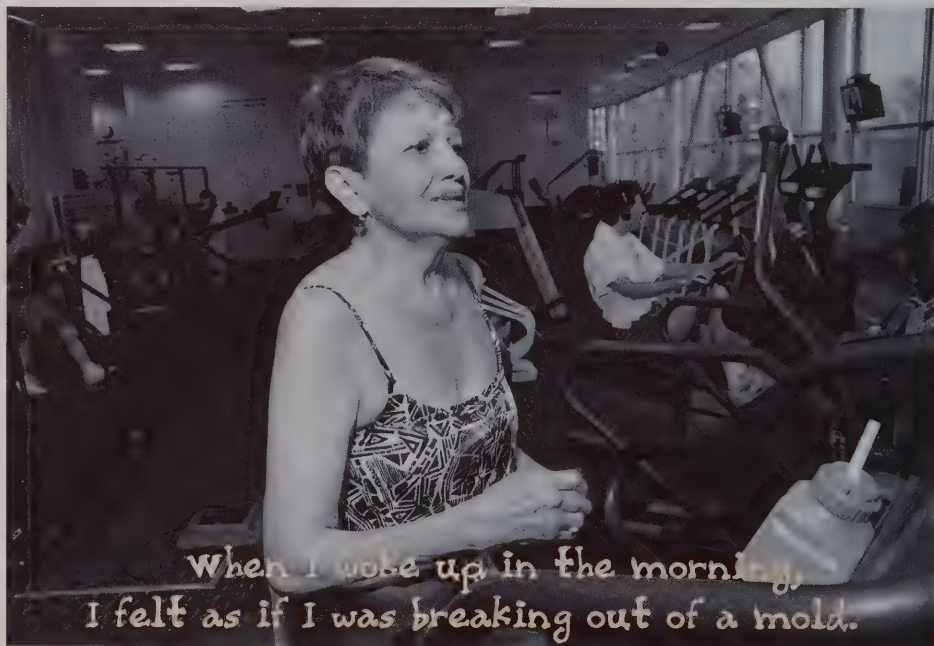
lie down and spend the whole night in the same position," she says. "When I woke up in the morning, I felt as if I was breaking out of a mold."

A change for the better

Her situation improved dramatically when she began taking a new medication through a study at Rush. Called Enbrel,

the drug halts the biological process that causes joint inflammation. Unlike standard treatments, Enbrel doesn't cause the side effects – like nausea, organ damage and infection – that limit the long-term effectiveness of many therapies.

Petersen saw results the morning after her first treatment. "I felt so loose that on our walk with the dogs, I was skipping down the alley, to show my



Elizabeth Petersen works out three times a week at a gym near her home.

Andrew Campbell

husband how well I felt," she told an FDA panel last August. The drug was approved in November.

Rush rheumatologist Eric Ruderman, MD, says Enbrel represents a watershed in rheumatoid arthritis treatment. "We're starting to be able to direct treatments based on a better understanding of the disease process," he says. Ruderman has been principal investigator on two studies of the drug. Rush was the only Chicago site for the studies.

Enbrel blocks the action of a protein, called a cytokine, that plays a crucial role in the cycle of inflammation, swelling and joint destruction that characterizes rheumatoid arthritis.

"The best understanding of how rheumatoid arthritis starts is that an antigen triggers the process," Ruderman says. No one has yet identified the antigen, he says. The word antigen refers to any organism – such as a virus – that puts the immune system on alert.

The destructive cycle begins

The antigen is picked up by receptors on T cells, white blood cells that patrol the immune system. Activated T cells signal other white blood cells, called macrophages, warning their comrades in arms of the enemy's presence. These stimulated macrophages, in turn, produce cytokines. Key among these is tumor necrosis factor, or TNF.

The interaction between the antigen and T cells is part of the normal immune response. But with rheumatoid arthritis, the immune system responds long after the antigen is gone. "The antigen is like a car key, and the T-cell receptor is the ignition," Ruderman says. "With rheumatoid arthritis, it's as if the car keeps going even after you take the key out of the ignition."

Lurching out of control, the immune system creates an excess of TNF, which instructs other cells in the joint to begin creating the enzymes that destroy bone and cartilage. At the same time, TNF initiates the production of chemical messengers that lead to other classic



Andrew Campbell

Elizabeth Petersen with her husband, Bert.

symptoms of rheumatoid arthritis: fever, burning in the joints, fatigue. Meanwhile, the abnormal interaction between the antigen and T cells also creates an excess of macrophages. These overstuff the joint lining, or synovium, causing it to swell to as much as five times its normal thickness. As bone and cartilage are eaten away, the synovium takes root below the surface, causing joint deformity.

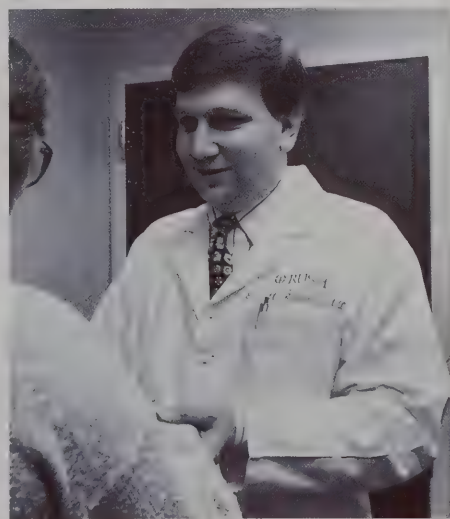
Enbrel, injected underneath the skin in the thigh, breaks this destructive cycle by intercepting TNF before it reaches its

target cells. Mimicking a naturally occurring molecule, it binds to TNF and renders it inactive.

Most patients in the drug trials – all of whom had failed to respond to at least one standard treatment – saw significant reduction in pain, tenderness and swelling in the joints. Aside from occasional reports of irritation at the injection site, there were virtually no short-term side effects.

Ruderman stresses that drugs targeting TNF are unlikely to be the final word in rheumatoid arthritis treatment. "We may find that the best treatment will target two or three cytokines," he says. He also cautions that the drug's long-term effects are unknown. "TNF plays a role in a normally functioning immune system and may also play a role in tumor surveillance," he says.

But the results so far are more than promising: Elizabeth Petersen is living proof of that. Since she began taking the new drug, she can pursue the many activities she enjoys – like exercise, painting and needlework – with a vigor that makes her husband, Bert, shake his head in a mixture of amazement and admiration. "I've always felt I could do whatever I wanted to do," she says, simply. And now she can prove it. ■



Penny Lawrence

Rush rheumatologist Eric Ruderman, MD



n call

Rush doctor heals spirits as well as bodies

■ by Rebecca Johns Trissler

John Hobbs, MD, is a unique creation in the modern world — a preacher in a white lab coat. Besides his private practice in obstetrics and gynecology at Rush, Hobbs is assistant pastor at Progressive Community Church on Chicago's South Side. And if some people think being a minister is at odds with being a physician, Hobbs sees it as the fulfillment of his role as a healer.

"I found myself doing a lot of counseling in my practice," he says. "A lot of the complaints that women had physically had a spiritual or emotional component, too. But it was hard for me to talk to them about spiritual issues when I didn't have a spiritual background."

All that changed about four years ago, when he received what seemed like nothing less than a calling: A desire to join the ministry so strong that at last he acted on it and became Progressive's associate minister.



The church community offers positive help in a neighborhood where no one expects any.

"The urge became unbearable," he says. "It finally grew to the point where I felt I had to just give in to it. So I was ordained a year ago."

It might have been destiny, he says. "My grandfather was a Southern Baptist preacher, and he made a prediction to my mother on his deathbed, that from his seed would come six preachers," Hobbs says. "I'm the fifth. The sixth is my nephew, who is just about to go into the ministry."

Mission (Not) Impossible

The fusion of Hobbs' roles as healer of bodies and healer of spirits led him to spend a week last year in Dakar, Senegal, in a hospital named for former Chicago mayor Harold Washington. Along with his wife, Zoraida, and his practice partner of 11 years — Rush obstetrician/gynecologist Leonard Lawson, MD — Hobbs left on a mercy mission but came back with a different one: to get drug companies to donate medicine and supplies to the struggling medical community in Africa.

"In Senegal you could walk the distance of half a mile and see 200 or 300 people with bad limb deformities as a result of polio," Hobbs says. "In this country, that would be unheard of. I thought I knew what suffering was, but I really was enlightened to what suffering is all about in Africa."

Lawson says the healthcare situation there, especially in the obstetrics ward, is especially grave. "They didn't have a lot of things we take for granted," he says. "Like sterile latex gloves. There was not a single incubator that worked. And this is the largest city in Senegal."

But a little help is coming from across the sea. So far, Hobbs and Lawson have arranged for a shipment of free drugs and supplies from Rush and Johnson & Johnson to be sent to Senegal, with United Parcel Service providing free shipping.

And the relationships

Hobbs and Lawson established while they were there will allow them to travel back and forth to Africa at least once a year to continue their efforts to establish relationships with the Senegalese medical community.

"Hopefully we will be able to do some training in the future," Lawson says. "We'd like to train some of their physicians in more advanced techniques, like laparoscopy." They are also working out the details of a residency exchange program, which would give a Rush resident the opportunity to work in Senegal for a year, as well as give a Senegalese medical student the chance to work at Rush.

Medicine Man

In some ways, this trip to Senegal was the perfect match between Hobbs' new life as a preacher and his first as man of science. Both required a lot of dedication.

A native of Tallahassee, Fla., Hobbs came to Rush in 1976 to do a residency in obstetrics and gynecology after finishing medical school at the University of Minnesota. After completing his residency, he stayed on at Rush to open his practice.

During this time, Hobbs had what he calls a "soft" relationship to the religious community — he involved himself in

the church, but never really dedicated himself to it as a way of life.

A friend from work first encouraged him to come to Progressive, a non-denominational church near the Robert Taylor Homes. It was a long way from Hobbs' North Side home, but he was impressed by the pastor there and by the community.

"I've been asked many times why did I go 'down there' to that church where there is a lot of potential for danger and violence," he says. "But I always say, 'Where else would I go?'"

At Progressive, Hobbs says, the church community offers positive help in a neighborhood where no one expects any. "The church is a refuge for the children there," he says. "We have about 10 kids who I have watched grow up over the years. They are now going to college out of state. They had scholarship offers for financial assistance to some of the traditional black colleges down south. It was just an example of how everyone we save is worth the effort."

In addition to his patients and his duties as a minister, Hobbs is also studying for his master's degree in divinity at Chicago's McCormick Theological Seminary. He will complete his degree this December.

"I guess people would think it was unusual," says Lawson. "But it's been a long-standing commitment of his, and he's quietly gone ahead with it." ■



I've been asked many times why did I go 'down there' to that church. But I always say, 'Where else would I go?'"

West Side kids take a breather at asthma camp

Last July, 24 children enrolled in the Henry Horner Pediatric Asthma Program got a summer-time breather — thanks to the Rush Community Services Initiative Program.

The Horner asthma program is staffed by a team of community representatives from the Chicago Housing Authority complex. In conjunction with staff from Rush — including medical students,



Andrew Campbell

Through the Rush Community Services Initiative Program, families at the Chicago Housing Authority's Henry Horner Homes are learning how to care for children with asthma.

For four days the children — ages 2 to 12 — played games, swam and hiked at a camp in northwest suburban Algonquin, far away from their West Side homes.

physicians and other healthcare professionals — they work to increase awareness about how to manage asthma among families living in the complex and in nearby neighborhoods.

"The asthma workers are advocates for the families," says Mala Adiga, MPH, assistant director of Rush Community Service Initiatives Program. "They provide asthma education and make sure children's asthma is

well taken care of." Community workers, who undergo extensive training by Rush healthcare professionals, teach families to recognize their children's triggers and symptoms, to understand the proper use

of medications, and to know when to seek medical care. They also help parents make and keep appointments at local clinics, including arranging for transportation and child care when necessary.

The camping trip is a special treat for children who have spent the rest of the year working hard to learn how to live with their condition.

"The majority of these children don't get to go far from home," says Gloria Henry, a Henry Horner resident who oversees the community workers. "When they get the opportunity to leave, it's good for them."

Rush professionals, along with community workers, have escorted groups of children to the camp for the past three summers.

Community workers monitor children's activities to prevent flare-ups, "prescribing" less strenuous recreation and rest periods for children throughout the day. Healthy doses of running, jumping and throwing balls are balanced with quiet-time activities like reading, painting and crafts.

But that doesn't diminish the fun.

"We don't want the children to overwork themselves," says community worker Samella Green. "But you can come up with all types of things to do."

— Aaron Hall

Rush elects new annual trustees

Susan D. Donahoe, Jane Doehrman Eberly, William Friend and William L. Gorman have been elected annual trustees of Rush-Presbyterian-St. Luke's Medical Center.

Donahoe is an associate manager at the Chicago Tribune Company. She currently serves as co-chair of the Associates, a Rush philanthropic organization made up of young professionals.

William Friend co-chairs the group with Donahoe. He is assistant to the president and strategic planning manager for Pittway Corporation, which manufactures and distributes security products.

Eberly is president-elect of the Medical Center's Woman's Board. She

has been a member of the group since 1987.

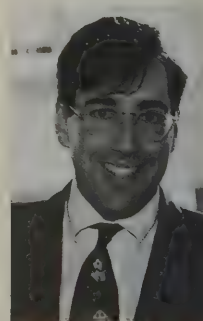
Gorman is chairman of the board of Holy Family Hospital in Des Plaines, a corporate affiliate of the Medical Center. He was president and chief executive officer of Gorman Publishing Company, a trade publications company serving the food industry, until its recent sale.



Susan D. Donahoe



Jane Doehrman Eberly



William Friend

(Not pictured: William L. Gorman.)

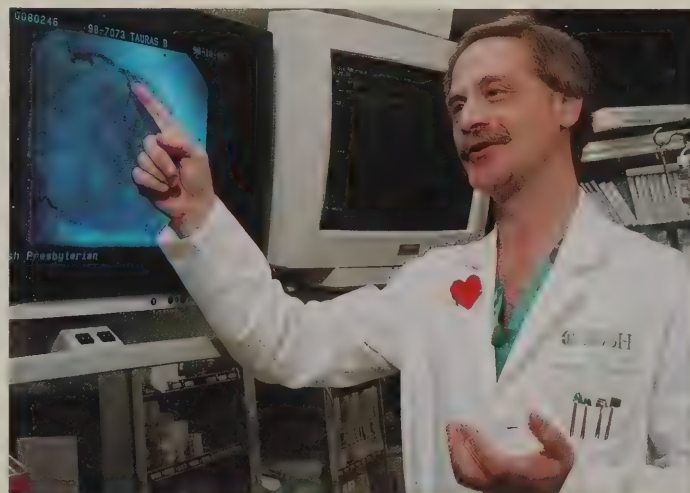
Rush physician appointed head of cardiology at Oak Park Hospital

Rush physician Lloyd W. Klein, MD, has been named chief of cardiology at Oak Park Hospital, a member of the Rush System for Health.

Rush took over responsibility for day-to-day operations of the community hospital last year.

Klein, who directs the interventional cardiology program at Rush's main campus, divides his time between his new post in Oak Park and his Medical Center appointment. He was appointed to oversee expansion of the community hospital's cardiology program, which will operate in conjunction with the Rush Heart Institute. New services include expanded non-invasive testing, a clinic for patients with congestive heart failure and a chest pain emergency program.

Klein earned his medical degree in 1977 from the University of Cincinnati School of Medicine, and completed his internship and residency at Albert Einstein Medical Center in New York City. He joined the faculty and staff of Rush in 1990. — Aaron Hall



Rush physician Lloyd W. Klein, MD, has been named chief of cardiology at Oak Park Hospital.

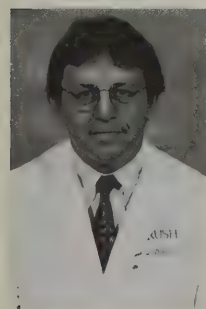
Andrew Campbell

Five appointed to endowed chairs at Rush University

Five faculty members have been appointed to endowed chairs at Rush University.

Verdi J. DiSesa, MD, has been named the Mary and John P. Bent Professor of Cardiovascular and Thoracic Surgery. Alexander Doolas, MD, has been appointed the inaugural Steven G. Economou, MD, Professor of General Surgery. Carol J. Farran, RN, DNSc, has been named the inaugural holder of the Nurses Alumni Association Professorship in Health and the Aging Process. Christopher Goetz, MD, has been appointed the United Parkinson Foundation Professor of Neurological Sciences. Harvey D. Preisler, MD, has been appointed the Samuel G. Taylor III, MD, Professor of Oncology at Rush University.

DiSesa, who is chairman of the Department of Cardiovascular and Thoracic Surgery, came to Rush in April 1998 from



Verdi J. DiSesa, MD

Allegheny University Hospitals in Philadelphia. A graduate of the University of Pennsylvania School of Medicine, DiSesa is known for his research on xenotransplantation, investigating the potential for trans-



Alexander Doolas, MD

planting animal organs in humans. Doolas, who is immediate past president of the Chicago Surgical Society, received his medical degree from the University of Illinois. He has received several teaching awards in his more than 30 years at Rush Medical College. Widely published, Doolas focuses his research focuses on metastatic cancer and related surgery.

Farran received her doctor of science in nursing degree from Rush in 1985. She has been on the staff of the Rush Alzheimer's Disease Center since 1986. Farran



Carol J. Farran, RN, DNSc

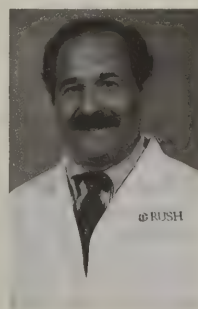
has conducted extensive research among caregivers of people with Alzheimer's disease. A major focus of her work is outreach and education on Alzheimer's caregiving among people of different ethnic groups.



Christopher Goetz, MD

disorders. A recognized medical historian, he is an authority on French neurologist Jean-Martin Charcot, about whom he has written two books.

Preisler, who came to the Medical Center in 1992, received his medical degree from the University of Rochester School of Medicine and Dentistry. He is known



Harvey D. Preisler, MD

Goetz is a graduate of Rush Medical College. He serves as director of the Section of Movement Disorders at Rush, caring for patients who suffer from Parkinson's disease, Tourette's syndrome and other neuromuscular

disorders. A recognized medical historian, he is an authority on French neurologist Jean-Martin Charcot, about whom he has written two books.

Preisler, who came to the Medical Center in 1992, received his medical degree from the University of Rochester School of Medicine and Dentistry. He is known for his research on leukemia. Last fall, the National Cancer Institute awarded his research team a \$10 million grant to study preleukemic bone marrow disorders and the acute leukemias that arise from them.

Cardiologists use lasers to relieve the pain of angina

Medical therapy is currently the standard treatment for people with angina — or chronic chest pain — who are not eligible for bypass surgery or angioplasty. A laser procedure called percutaneous myocardial revascularization (PMR), which could reduce the amount of medication these patients need, may offer a new option.

"If you can get patients off medication or down to lower doses, they generally feel better and they can do more," says Gary Schaer, MD, director of the Rush Cardiac Catheterization Laboratory.

Angina, which affects approximately 7 million people in the United States, occurs when the heart is not getting enough oxygen. A person with angina may feel as if his or her chest is being squeezed, or may feel a sharp, burning or cramping pain that can spread to the neck, jaw, throat, shoulder, upper back or arms. Some patients with angina are in severe, constant pain — often, just walking across a room becomes difficult.

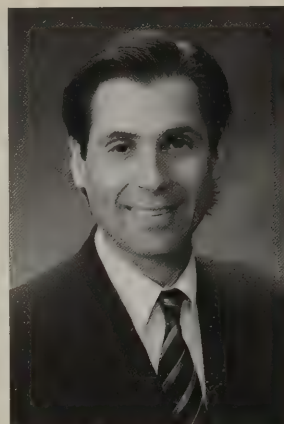
In patients with persistent angina, PMR is being evaluated at Rush as part of a nationwide FDA study of the CardioGenesis percutaneous laser. Rush is the only

center in Illinois involved in the study.

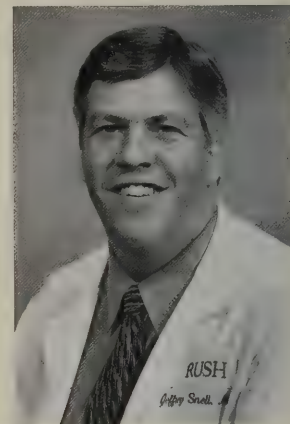
During the procedure, a tube is placed into an artery in the thigh and threaded up to the aorta and left ventricle of the heart. The doctor inserts a laser into the tube, and then directs small pulses into the muscle wall of the heart to create channels, or small holes. These channels stimulate the growth of new blood vessels into the heart. This, in turn, increases circulation and blood flow in the heart, and relieves pain.

PMR is an outpatient procedure based on techniques developed in TMR (transmyocardial laser revascularization), a surgery pioneered at Rush by Robert March, MD. Because the procedure is nonsurgical, patients are only required to stay in the hospital overnight for observation.

Schaer and Jeffrey Snell, MD, director of interventional cardiology in the Rush



Gary Schaer, MD



Jeffrey Snell, MD

Heart Institute, began a study in late 1997 to compare the effectiveness of PMR with that of continued medical therapy. Eighteen patients who were not candidates for surgery or angioplasty participated.

Follow-up evaluation is still under way, but preliminary findings indicate that many patients have shown improvement.

Two more PMR trials are planned at Rush: a longitudinal study involving PMR alone and a randomized study that will evaluate PMR in combination with angioplasty with stent implantation.

— Jill Waite

Radiation therapy offers new hope for patients with vision loss

Located in the center of the retina, the light-sensitive tissue at the back of the eyeball, is a small region known as the macula. No larger than the head of a pin, the macula makes possible the straight-ahead vision — as opposed to side or peripheral vision — that allows people to read, identify colors, recognize faces and do close work such as sewing.

The macula can degenerate over time. In some cases, the degeneration is so severe it causes central vision to become blurry and distorted. This condition, known as age-related macular degeneration, is the leading cause of severe vision loss in people over the age of 65.

Rush researchers, led by radiation oncologist Katherine Griem, MD, and ophthalmologist Jack A. Cohen, MD, are investigating a new treatment for a form of the disease known as "wet" macular degeneration. Wet macular degeneration is caused by the abnormal growth of blood vessels that leak under the retina. Though it accounts for only 10 percent of cases, wet macular degeneration leads to more rapid and severe vision loss than the so-called "dry" form of the disease, which is caused by gradual thinning of the macula.

Available treatments for macular degeneration may slow but cannot reverse the condition. Griem and Cohen are studying a low-dose radiation regimen that may offer an alternative for patients whose conditions have been deemed "nontreatable" by laser therapy, which is currently the only proven treatment for this disease. For those with diffuse deterioration and leakage, laser therapy is considered unsafe and could lead to further vision loss.

The researchers are comparing two low-dose radiation regimens. Radiation therapy works by attacking blood vessels growing at an abnormally rapid rate, while sparing normal blood vessels. This offers what Cohen calls "a softer, gentler therapy" for macular degeneration.

For 16 of the 20 patients treated, the degenerative process had stabilized after a course of treatment lasting from one and one-half to two weeks. The treatment is painless.

"This is not a proven breakthrough therapy," Cohen says. "But it is a therapy for a certain number of people who are not candidates for laser treatment."

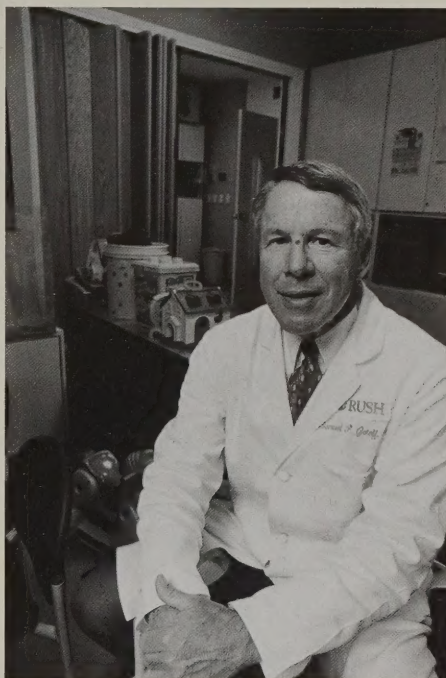
— Jill Waite

Rush joins alliance to prevent violence against children

The most serious health problem facing children is no longer the risk of disease, but the threat of violence. Almost half of the children in Chicago have either been victims of violence or have witnessed a violent act. This disturbing statistic is backed by dozens of others citing the dramatic increase since the 1960s in child abuse, gang shootings, rape and other violent acts involving children.

Recognizing the seriousness of the issue, the Department of Pediatrics at Rush has joined an alliance with the pediatric departments of five other Chicago-area medical schools: Cook County, Loyola, Northwestern, the University of Chicago and the University of Illinois at Chicago. The goals of the Alliance Against Childhood Violence are to reduce the toll of violence on Chicago's children, treat the victims of violence and their families and find ways to support community efforts in violence prevention.

"As leaders of the city's pediatric departments, we can no longer stand by and watch this epidemic of violence destroy our children," said Arthur



Samuel Gotoff, MD, chairman of the Department of Pediatrics at Rush.

Kohrman, MD, associate chair of pediatrics at Children's Memorial Hospital.

Kohrman gave the opening address at the Alliance's two-day conference last April at the University of Illinois at Chicago, which was attended by about 150 physicians, nurses and students.

"If we are going to succeed, we need to focus on finite projects and develop attainable goals," said Samuel Gotoff, MD, chairman of the Rush Department of Pediatrics at the meeting.

"This conference was just a start," says William Hayden, MD, director of pediatric intensive care at Rush. "It threw some coal on a fire. But this conference will mean nothing if no lives are saved."

Alliance members met again in July to discuss ways to implement the group's goals, including interaction with the Chicago Public Schools to survey current programs, creating standards for emergency care and building a database for sharing information between the six medical schools.

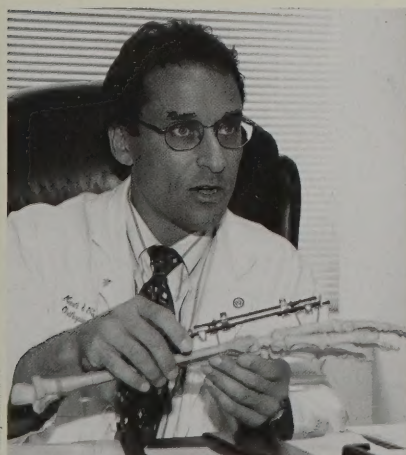
— Rebecca Johns Trissler

Bone cement holds fast to its promise

Casts, pins and lengthy rehabilitation may become things of the past for many patients with serious bone fractures if a new bone cement tested at Rush is approved as expected by the Food and Drug Administration.

The Norian Skeletal Repair System (SRS) is a paste of sodium, calcium and phosphorous that is identical to bone — the body doesn't recognize it as foreign. Doctors mix and inject the paste into fractures with a special "gun." The cement hardens in 10 minutes and is as strong as bone in 12 hours.

Rush orthopedic surgeon Mark Cohen, MD, was one of the first physicians in the country, and the only one in Chicago, to use



Penny Lawrence

Norian SRS in a national study of 300 patients with wrist fractures. The study found that normal wrist function returned much faster in patients who received the bone cement — two weeks instead of two months in most cases.

"This is a much improved treatment that gets patients back to their normal activities much quicker than conventional treatments," Cohen says.

The study showed that patients who received the bone cement had less pain and recovered their strength and dexterity much more quickly than patients who received traditional treatments.

"The cement patients did better in practically every category," Cohen says. The study ended in May 1997, and FDA approval is expected at any time.

The bone cement is especially practical, says Cohen, for spongy-bone fractures, such as those that occur in the wrist, shoulder, elbow, knee, ankle, hip and spine. These fractures are normally repaired with pins, screws and casts, and require long rehabilitation periods. The cement's first approved use will be for wrist fractures. The cement does not work well with long-bone fractures, such as broken legs and arms.

— Rebecca Johns Trissler

Andrew Thomson, MD: 1925–1998

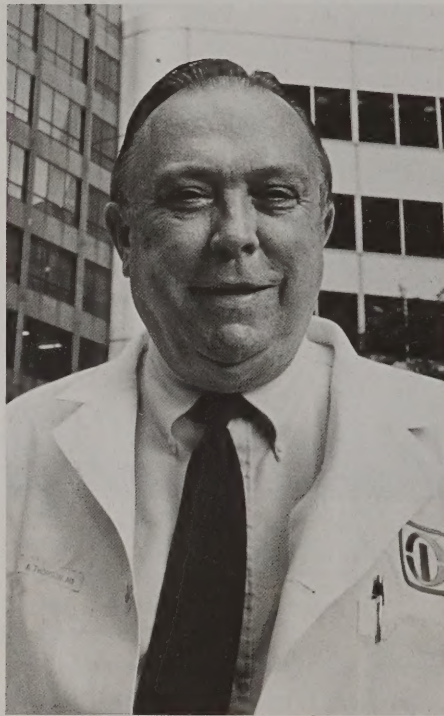
When someone leads a full life, death leaves an emptiness beyond words. As Dr. Andrew Thomson stood before fellow mourners in the Cathedral Church of St. James, he seemed to realize just that. Seventeen years later in that same church, Dr. Thomson's friends and coworkers would also search for the right words to do justice to a man who gave so much.

"Andy was simply a fantastic man who always delivered on what he promised," said Rush Trustee Edgar D. Jannotta, who chaired the Campaign for Rush. "Rush, and the community, lost a wonderful human being." Dr. Thomson spearheaded the Medical Staff and Faculty component of the Campaign for Rush, raising more than \$8 million.

Dr. Thomson, former medical staff president at Rush and a benefactor to many Chicago institutions, died in March following a long illness. He was 72.

A native of Gary, Ind., he attended Dartmouth College for one year before joining the Army in 1943. Upon his return from the war, he continued his undergraduate and medical education at Indiana University. After graduating in 1951, Dr. Thomson spent his internship and residency training in internal medicine at the University of Chicago Clinics.

Dr. Thomson was emeritus physician in the Department of Medicine at Rush Medical College. In 1983, he was elected president of the Medical Staff and served on the Rush Board of Trustees until 1985. In 1988 he was elected a general trustee. His wife, Peg, joined the Woman's Board in 1982. Upon Dr. Thomson's retirement in 1993,



Andrew Thomson, MD

the Dr. Andrew and Peg Thomson Chair of Internal Medicine was established to recognize the couple's contributions to Rush.

"We knew Andy was ill, but because of who he was, there was always the hope he would be with us, advising and working with us, for years to come," said Leo M. Henikoff, MD, Rush president and CEO, at a memorial service for Dr. Thomson last spring.

Dr. Thomson's quiet but persuasive leadership style served him well as a leader in his volunteer work in a range of organizations, including the Chicago Symphony Orchestra, Dartmouth College Medical School, the Indiana University School of Medicine, Illinois Institute of Technology and the Night Youth Ministry, a shelter for homeless teenagers.

"It's difficult to summarize a life so varied, so rich ... so meaningful."

— Andrew Thomson, MD,
on the death of his
friend and colleague,
William A. Hark, MD,
in 1981

"I knew I would miss him, I just didn't realize that the loss would be so deep, wide and constant," said the Rev. Tom Behrens, director of Night Youth Ministry. "He was always calling — not to check up on how we were spending the money but to be sure that a difference was being made. He lived beyond himself."

Because of the time and effort Dr. Thomson gave to every project, partnership and patient, those who knew him lost more than just a fundraiser, board member or doctor. They lost a friend.

In addition to his wife, Dr. Thomson is survived by three sons, David, Scott and Robert Thomson; a daughter, Mary Renner; and five grandchildren.

— Amanda Temple



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address correction requested

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